Exhibit A

PDF Document Audit for Accessibility

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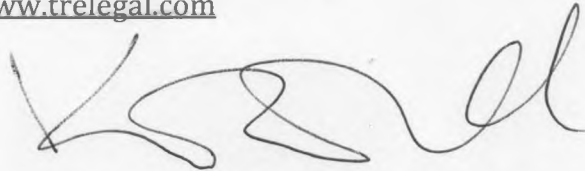1155 Market Street, Tenth Floor
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Background

This report represents the audit of three documents hereafter referred to as Exhibit 1, Exhibit 2 and Exhibit 3:

- Exhibit 1 (Lists rev date of 10/18 in top left), which I have verified as being the same PDF available at the Internet Archive as https://web.archive.org/web/20190214191025/http://acgov.org:80/forms/audit or/275-321.pdf (February 14, 2019).

- Exhibit 2 (Lists rev date of 4/21 in top left of the first page), which I have verified as being the same PDF available at the Internet Archive as https://web.archive.org/web/20220813030306/http://acgov.org/forms/auditor/ GBNS275-321Rev04-21-2021fillable.pdf.

- Exhibit 3 (Lists rev date of 11/22 in top left of the first page), which I have verified as being the same PDF available at the Internet Archive as https://web.archive.org/web/20221209002203/http://acgov.org/forms/auditor/ GBNS275-321FictitiousBusinessNameStatement-REV111422.pdf; or at http://co.alameda.ca.us/forms/auditor/GBNS275-321FictitiousBusinessNameStatement-REV111422.pdf.

International Standards

The scope of this audit is confined to the accessibility of Exhibit 1, 2 and 3. The first page is a form, and the second page contains instructions on how to fill out the form.

The following are international standards for accessible PDF:

- ISO 14289: 2014 or PDF/UA (Universal Accessibility)[1].

- ISO 32000 – 1:2008[2].

- ISO 32000 – 2:2017[3] (PDF).

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[1] ISO 14289: 2014, ISO: ISO - ISO 14289-1:2014 - Document management applications — Electronic document file format enhancement for accessibility — Part 1: Use of ISO 32000-1 (PDF/UA-1)

[2] ISO 32000 – 1:2008, ISO: ISO - ISO 32000-1:2008 - Document management — Portable document format — Part 1: PDF 1.7

[3] ISO 32000 – 2:2017, ISO: ISO - ISO 32000-2:2017 - Document management — Portable document format — Part 2: PDF 2.0

ISO 32000 chapter 14 details the ability to tag PDFs to make them accessible. ISO 14289 contains the specifications for implementing chapter 14 of ISO 14289. ISO and the PDF Association are currently working on an update to ISO 14289 – 1:2014. As a result, the international standard for PDF is ISO 14289 – 1:2014. ISO 32000 – 2: 2017 is only referenced if there is a significant change between the standards that may affect accessibility.

ISO is the International Standards Organization, the governing body that sets international standards for many things, including archival PDF and document management systems.

The PDF Association has published the "Tagged PDF Best Practice Guide: Syntax"[4].

The other international standard is WCAG 2.1 (Web Content Accessibility Guidelines). The WCAG is published by the W3C (World Wide Web Consortium, WAI (Web Accessibility Initiative). The WCAG criteria are now part of ISO as ISO/IEC 40500![5]

These ISO standards are referenced by legislation in several countries, including the United States (Refresh of Section 508[6], the Americans with Disabilities Act[7]), the European Union (EN 301 549: 2021 – 03[8]), the Canadian province of Ontario (Integrated Accessibility Standards Regulations[9]) and Australia (Web Accessibility in Australia, The Full Compliance Guide 2022[10])

In addition, the W3C WAI published "PDF Techniques for WCAG 2.0"[11] which attempts to map PDF accessibility to WCAG 2.0. However, there is some misinformation in these techniques, such as tagging page numbers instead of using page labels, and the techniques have not been updated. Therefore, they are not to be relied upon.

What is an accessible PDF?

Section 7.1 of ISO 14289 states that an accessible PDF will have content marked in the structure tree with semantically correct tags in a logical reading order. Elements that are

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[4] Tagged PDF Best Practices Guide: Syntax, the PDF Association: Tagged PDF Best Practice Guide: Syntax – PDF Association
[5] WCAG 2.0 is now ISO/IEC 40500, W3C website: WCAG 2.0 is now also ISO/IEC 40500! | W3C Blog
[6] About the ICT Accessibility 508 standards and 255 Guidance, US Access Board: Revised 508 Standards and 255 Guidelines (access-board.gov)
[7] Guidance on web accessibility and the ADA, ADA.gov: Guidance on Web Accessibility and the ADA | ADA.gov and
[8] EN 301 549:: 2021-03:
https://www.etsi.org/deliver/etsi_en/301500_301599/301549/03.02.01_60/en_301549v030201p.pdf
[9] O. Reg. 191/11: INTEGRATED ACCESSIBILITY STANDARDS, Government of Ontario: O. Reg. 191/11: INTEGRATED ACCESSIBILITY STANDARDS (ontario.ca)
[10] Web Accessibility in Australia, the Full Compliance Guide 2022, Web Accessibility Australia: https://web.archive.org.au/awa/20170423124903mp_/http://www.finance.gov.au/publications/wcag-2-implementation/docs/wcag-transition-strategy.pdf
[11] PDF Techniques for WCAG 2.0, W3C, WAI: PDF Techniques | Techniques for WCAG 2.0 (w3.org)

not to be rendered to the end-user are to be marked as artifacts (part of the background and ignored by adaptive technology).

For purposes of understanding, an accessible PDF has:

- All content that needs a tag, has a tag.

- The tags are correct for the type of content (headings, paragraphs, lists, tables, figures and so forth).

- The tags/content is in a logical reading order.

ISO 14289: 2014 identifies 3 components of an accessible PDF: the document is tagged correctly, the PDF reader can render the tagged content, and the adaptive technology is able to render the accessibility features/tags of the document. The references in ISO 14289: 2014 are 6.3 Conforming Reader and 6.4 Conforming Assistive Technology.

In the case of Exhibits 1, 2 and 3, an accessible PDF reader and adaptive technology are moot points because parts of the content are not tagged.

Accessibility Barriers

All three iterations of the form have significant accessibility barriers that impede someone without functional vision from reliably filling out the form.

Page 2, with a revision date of 10/18 is common to Exhibits 1, 2 and 3.

Exhibit 1 also has the revision date of 10/18 on page 1.

Exhibit 2 has a revision date of 04/21 on page 1.

Exhibit 3 has a revision date of 11/22 on page 1.

This indicates that the first page, the form, was removed from Exhibits 2 and 3 and replaced with an updated revision number and differently tagged (or not), page.

While this is a technique used to update forms where the form is updated but instructions are not, attention is typically paid to the tagging, inclusion of form controls in the Tags Tree, and overall accessibility of the page to be reinserted into the PDF.

Exhibit 1 has both pages tagged. The tags are not correct. There are no form controls in the document. This means that while someone using a screen reader might be able to read the form, they cannot reliably fill it out. The phrase "might be able to fill it out" is used because the tags that are present are not correct for the type of content in the form. This demonstrates that the creator of the form knows about tagged PDF. This document would

require some remediation (headings and lists structured correctly) and the addition of form controls in the Tags Tree.
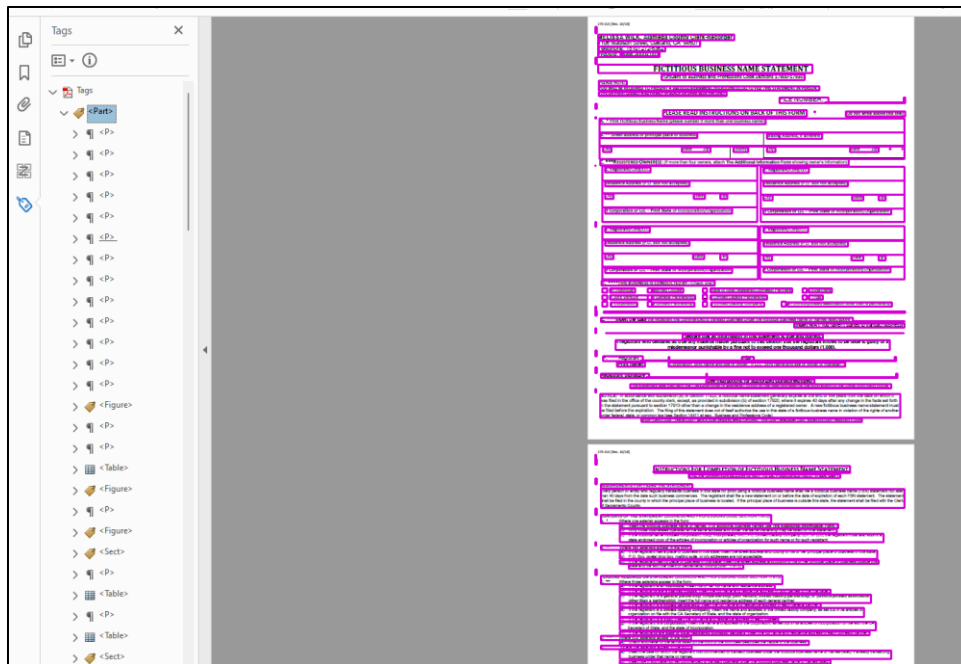
Figure 1 Exhibit 1 showing the entire document has tags.

Exhibit 2 is also inaccessible. This document does have tags for both pages. However, the tags are not correct for the type of content. The form controls are not in the Tags Tree. This means that while someone using adaptive technology might be able to read the text in the form, the form controls may not be "seen" by the adaptive technology. The phrase "might be able to read the text" is used because the text that is tagged/available to adaptive technology is not tagged correctly. While this version of the form does have the form controls added, they are not in the tags tree and therefore not accessible to adaptive technology. This demonstrates that the creator of the form knows about tagged PDF and that form controls were needed.
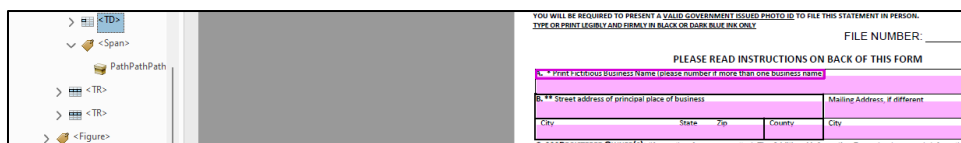
Figure 2 Exhibit 2 showing tags on the first page, but the form controls have not been added.

Exhibit 3 takes a huge step backward in accessibility. The first page is not tagged at all. The form controls have been added but since only the second page is tagged, adaptive technology begins reading at page 2 and does not "see" page 1. It is not intuitive or expected that someone who cannot see the document would assume that additional content is not accessible but might be rendered to their adaptive technology. One would

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hear the instructions and think that the form was in a different document. Separating a form from the instructions is a technique that is sometimes used for forms and is therefore not unexpected by those of us who use adaptive technology.

Figure 3 Exhibit 3 showing only the second page of the document is tagged/accessible.

The preceding graphic illustrates that the first page of Exhibit 3 is not tagged, not accessible to end-users who are using adaptive technology.

An additional note is that asterisks are being used for something in Exhibits 1, 2 and 3 but there is no legend as to what the asterisks represent. Typically, an asterisk represents required form controls. None of the form controls on page 1 indicate that they are required.

Exhibit 3 on iPhone. The latest version of the form was tested on an iPhone 12 with the current iOS 16 version. The results are that there are parts of the form that are not accessible.

Parts of the text are read in a single block as illustrated in the following graphic.

Figure 4 Checkbox form controls on an iPhone showing a block of text read by VoiceOver.

When the gestures for moving through the content and form controls were used, the check box for "An Individual" was not accessible. Even trying to target that check box using some functional vision with VoiceOver would not put focus on the check box so that it could be checked.

The check boxes were not accessed in a logical manner. With the blocks of text being read followed by random check boxes, the form was confusing to fill out. An end-user couldn't reliably understand where they were in the form.

Figure 5 Check box on page 1 of the form, out of sequence.

After hearing the block of text shown in the previous graphic, the next element was a check box in column 2 of the series of check boxes. For someone who cannot see the form, the question arises as to whether the block of text shown in figure 4 was a single check box or not. As someone uses gestures to move through the check boxes, some of the check boxes in the first column are identified, but not in any logical order. As stated, "an Individual" is not accessed in any of the testing.

Moving forward through Exhibit 3 on the iPhone using the default onboard PDF reader, another block of text is read. However, using gestures, the end-user has already found the check boxes. It is not clear to an end-user whether this content is different from the content with the check boxes or not.

Figure 6 Another block of text read as a single option on the form.

As someone using VoiceOver moves through the check boxes, blocks of text unrelated to check boxes are accessed followed by check boxes in random order. Listening to this is confusing and disorienting.

Since some of the check boxes are not "seen" by VoiceOver, a correct answer is not possible if it is one of the form controls VoiceOver doesn't "see".

Figure 7 Large block of text in the checkbox area of the form.

Access versus Accessibility

There is a difference between someone being able to access or open a document, and being able to read all content that is necessary to understanding the document or filling out a form and read it in a logical reading order.

Exhibits 1, 2 and 3 represent access to some of the content but not all the content necessary to understand the form and fill it out.

The first page of Exhibit 3, the page with the form, has no tags. This means it has no structure and the form controls cannot be recognized as part of the document's structure. The result is that adaptive technology can sometimes "see" the form controls on page 1 while at other times, it won't. During the audit, focus had to be visually forced using the mouse to form controls to be able to identify whether they were rendered to an end-user or not. This depended on being able to visually look at the contents on page 1, pick up a mouse and specifically target form controls. Most of the time this technique was not successful in

providing information through the screen reader so that an end-user would be able to fill out the form.

If someone cannot see the form, they will not be able to use a mouse to target form controls.

In testing Exhibit 2 and Exhibit 3 using the JAWS 2023 screen reader and NVDA screen reader, both current versions, when asked for a list of form controls from the screen reader, the end-user is told there are no form controls.

When the Tab key is pressed to move from form control to form control in Exhibits 2 and 3, while the focus does move to the next form control, the screen readers do not announce this. From the perspective of an end-user who cannot see the form, there is no indication that Tab has moved them anywhere and no indication of the ToolTip for the form control. This means that even if they were able to know that Tab moved them to the next form control, they would not know what information to enter in the form control.

Exhibits 1, 2 and 3, are perfect examples of access to something without the accessibility component in place. Exhibit 1 has the text but not the form controls tagged, Exhibit 2 has the text tagged, form controls added but not put in the Tags Tree, and finally, Exhibit 3 has the first page of the form not tagged but has form controls and the second page has tags. All three iterations of the form represent PDFs with accessibility barriers for someone who can't visually access the form to fill it out.

An analogy would be installing a ramp to a building but not installing automatic door openers, not making the doors wide enough for a wheelchair and not installing elevators to access the floors in the building. Access but not accessibility.

Summary

While Exhibits 1, 2 and 3 do have tags, the tags are either missing from large parts of the form or are incorrect for the type of content in the PDF.

For example, for Exhibits 1, 2 and 3, all lists on page 2 are tagged as paragraphs. This means that someone with functional vision can see the bullets and understand that the items in the list are related. Someone using adaptive technology will not be able to understand those relationships because of the missing list structure.

For Exhibits 1, 2 and 3, the two headings (one on page 1 and the other on page 2) are tagged as paragraphs. Headings are navigational points in digital content. Without the correct tags for headings, someone using adaptive technology will not be able to move

between the form controls and the instructions without having to read through everything else in between those two points.

The Bookmarks in Exhibit 3 do not replicate the headings in the document. Bookmarks are a way for those who are not using adaptive technology to navigate to a specific point in the PDF. This is identified in ISO 14289: 2014 section 7.17 Navigation. Exhibits 1 and 2 do not have any Bookmarks.

Exhibits 2 and 3 have form controls, but the form controls are not in the Tags Tree. This means that they may not be rendered to the end-user in a logical manner, that they may not be seen by adaptive technology and, as stated after testing with three screen readers, the ToolTips may not be read by the adaptive technology. Without the forms being tagged correctly, content can randomly be rendered to an end-user and some parts of the content might not be rendered.

It is my opinion to a reasonable degree of professional certainty as an expert in PDF accessibility, based on international standards, 22 years of working with PDF content to provide accessibility, and testing in several environments, that:

1. Exhibits 1, 2 and 3 are not accessible under any professional standard;

2. Exhibits 1, 2 and 3 cannot be independently completed by a blind person who needs non-visual access through screen reader technology such as JAWS; and

3. Exhibit 3 represents a degradation on accessibility when compared with Exhibit 2.

Exhibits 1, 2 and 3 were tested on two Windows 11 desktop computers, Adobe Acrobat Pro DC was used with JAWS 2023 and the latest version of NVDA (Non-Visual Desktop Access). JAWS and NVDA represent the two commonly used screen readers.

Exhibit 3 was tested on an Apple iPhone 12 with an onboard PDF reader.